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June 3, 2022

Base Realignment and Closure Operations Branch

Mr. Rick Shean
Chief, Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

RE: Final Groundwater Periodic Monitoring Report, July through December 2020 Revision 2, Fort Wingate Depot Activity, McKinley County, New Mexico. EPA# NM6213820974

Dear Mr. Shean:

This letter provides responses to the comments issued in the Approval with Modifications, Final Groundwater Periodic Monitoring Report, July through December 2020, Revision 1, from the New Mexico Department (NMED), dated April 5, 2022, HWB-FWDA-21-003. In addition to the comment responses provided in this letter, two (2) hard copies and two (2) electronic (CD) copies of the revised Final Groundwater Periodic Monitoring Report, July through December 2020, Revision 2, are enclosed for your review and consideration. The electronic transmittal includes a redline-strikeout version of the above-mentioned report, showing where all revisions to the report were made.

Comments:

1. **Permittee Statement:** "A Table of Contents listing all the wells with links to the relevant lab report and a page listing is now provided in the beginning of Appendix D-2."

NMED Comment: The referenced Table of Contents was not included in the Report. Include the Table of Contents that lists wells with links to the relevant lab report in the revised Report, as stated, and provide an electronic version of replacement Appendix D-2.

Permittee Response: Concur. Table of Contents page for Appendix D-2 is provided in the revised report.

2. **Permittee Statement:** "A well recovery test was not conducted for BGMW08, but using the data from the quarterly gauging events, now graphed in Appendix G, demonstrates that even six months after purging dry, that the well may not be fully recovered by the time it is purged dry every six months for sampling."

NMED Comment: According to Appendix G (BGMW08 Groundwater Elevation vs. Time), the groundwater elevations in well BGMW08 measured in January and April 2019 are recorded as approximately 6,660 feet and 6,540 feet, respectively. The groundwater elevation measured in April 2019 decreased approximately 120 feet compared to that of January 2019 without any obvious cause. It is evident that well BGMW08 has not fully recovered in six months. Although Appendix G indicates that the well was not purged dry between January and April 2019, the groundwater elevation decreased approximately 120 feet in three months. Verify whether the

well was purged or not, prior to collection of the April 2019 elevation data and confirm the information in a response letter. Also, please revise Appendix G and provide a replacement Appendix G, if the well was purged dry between January and April 2019. If the well was not purged and the groundwater elevation decreased 120 feet in three months, groundwater retained in the well may be leaking from the well casing, and the integrity of the well must be investigated.

According to Table 2-1 (Northern Area Groundwater Well Construction Details), well BGMW08 was installed in 2018; however, the date of installation was not correctly recorded because of typographical errors (e.g., 23/03/2018); therefore, it is unknown how many months elapsed from the date of installation to the January 2019 gauging event.

Correct the typographical errors and provide a replacement table to identify the date of installation. In addition, provide the dates when well BGMW08 was purged dry between the date of installation and the January 2019 gauging event in the response letter. Furthermore, revise Appendix G to include the groundwater elevation data collected between the date of installation and January 2019 and provide a replacement Appendix G.

Table 2-1 also indicates that groundwater elevations at the time of well installation were recorded as 6,685.02 feet (old survey data) and 6,681.72 feet (new survey data) in 2018. This observation indicates that the groundwater elevation measured at the time of well installation was even higher than that of January 2019 (approximately 20–25 feet higher). Propose to evaluate whether the groundwater elevation in well BGMW08 can be recovered to the level observed in January 2019 and to investigate the integrity of the well in the response letter.

Permittee Response: Concur. Well, BGMW08 was installed and developed in March of 2018. In May of 2018, this well was redeveloped. Upon review of the old data, the Army noted that the July 2018 and October 2018 gauging events were comparable to the April 2019 and July 2019 readings. It appears that January 2019 reading is an anomaly, most likely due to human error in recording the water level. See revised graph in Appendix G.

Appendix G and Table 2-1 were updated to reflect the data described above, including the typographical error (reversal of the day and month) on the date of installation.

3. **Permittee Statement:** "The formula used for converting ORP to Eh is presented in the notes section of Table 5-1."

NMED Comment: Although the Permittee provides the conversion formula to obtain Eh values, the purpose of converting ORP to Eh was not discussed in the revised Report. Discuss the purpose of the conversion in the revised Report and provide replacement pages.

Permittee Response: Concur. Brief explanation was added to Section 5.1, page 5-1, lines 44-45, and page 5-2, lines 1-2 of the Report as follows:

"ORP and Eh both quantify the potential to transfer electrons; however, Eh is defined as a voltage reading relative to the Standard Hydrogen Electrode (SHE), while ORP may be relative to any reference electrode based upon the construction of the field measuring device."

4. **Permittee Statements:** "Tables 5-3, 5-6, 5-8, 5-9, and 5-10 were updated accordingly to reflect [limit of detection (LOD)] instead of [detection limits (DL)] for the analytes whose LOD exceed the screening level."

NMED Comment: Although the Permittee states that Tables 5-3, 5-6, 5-8, 5-9, and 5-10 were updated, it is not clear whether the updates were thoroughly implemented in the tables. The Notes and Abbreviations included in the last page of each analytical data summary table explain that "<" cites DL rather than LOD. The values of DL presented in Table 3-1 (Groundwater Screening Levels, Detection Limits, and Control Limits) appear to be used to reference "not detected" or "<" in the analytical data summary tables. For example, the concentrations of 1,3,5-trinitrobenzene in the groundwater samples collected from well MW18D are recorded as < 0.10 µg/L in Table 5-3 (Summary of Explosives Analytical Results), page 2 of 9, and according to Table 3-1, page 5 of 7, the values of DL and LOD for 1,3,5-trinitrobenzene are presented as 0.1 and 0.2 µg/L, respectively. In this case, the concentrations of 1,3,5-trinitrobenzene should have been reported as < 0.20 µg/L in Table 5-3 to reflect the value of LOD. The DL is the method detection limit that applies to the instrument at the lab and not to individual samples. Use of the DL to indicate a value for non-detect data is not accurate and is a misrepresentation of the data. The Permittee must use LOD rather than DL values to report undetected analyte concentrations. In addition, although this requirement applies to all analytes, the response indicates that only Tables 5-3, 5-6, 5-8, 5-9, and 5-10 were updated to address the issue. To clarify, all analytical data summary tables must be updated to resolve the issue. Revise all analytical data summary tables accordingly and provide replacement tables.

Permittee Response: Concur. It is Army's understanding that NMED previously requested non-detects to be <LOD only for compounds where the LOD>SL. This report and future reports will reflect all non-detects to be <LOD. All figures and tables were revised accordingly.

If you have questions or require further information, please contact me at George.h.cushman.civ@army.mil, 703-455-3234 (Temporary Home Office, preferred) or 703-608-2245 (Mobile).

Sincerely,

George H. Cushman IV

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Enclosures

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